

Amendments to the Claims

This listing of claims will replace all prior versions, and listings of claims in the application:

1. (Currently Amended) An apparatus, comprising:

first and second receiver chains and at least one transmitter chain, which is a dedicated transmitter chain different and separate from the first and second receiver chains;

N multiple antennas to connect ~~for connecting~~ to the first and second receiver chains and the at least one transmitter chain, N being greater than two; [[and]]

a switch adapted to couple each receiver chain to ~~a selected~~ an individual reception antenna during reception and the transmitter chain to ~~a selected~~ an individual transmission antenna during transmission so that each receiver chain is coupled to a different one of said antennas, said switch comprising:

a first sub-switch adapted to couple a first reception ~~selected~~ antenna, selected from at least two antennas, to [[a]] the first receiver chain creating a first signal path,

a second sub-switch adapted to couple a second reception ~~selected~~ antenna, selected from at least two antennas, to [[a]] the second receiver chain creating a second signal path, and

a third sub-switch, operationally coupled in series with the first sub-switch, adapted to couple a transmission ~~selected~~ antenna, selected from N antennas, via the first sub-switch to the transmitter chain during transmission creating a third signal path and the first reception antenna to the first receiver chain via the first sub-switch during reception; and

a combiner operationally coupled to the selected individual reception antennas via the first and second receiver chains to combine signals from the selected individual reception antennas to form a combined output.

2. (Previously Presented) The apparatus according to Claim 1, wherein each individual antenna to be coupled by said switch to each receiver chain is to be selected according to a predetermined criterion.

3. (Cancelled)

4. (Currently Amended) The apparatus according to Claim 1, wherein the first sub-switch is adapted to be coupled to four antennas and the second sub-switch ~~[[each]]~~ is adapted to be coupled to three ~~at least two~~ antennas and ~~the third sub-switch is adapted to be coupled to all antennas.~~

5. (Currently Amended) The apparatus according to Claim ~~[[4]]~~ 10, wherein the ~~first and second and fourth~~ sub-switch each is adapted to be coupled to two ~~[[all]]~~ antennas.

6. (Cancelled)

7. (Currently Amended) The apparatus according to Claim ~~[[8]]~~ 1, wherein the first sub-switch is adapted to be coupled to ~~[[all]]~~ four antennas and the second sub-switch is adapted to be coupled to two antennas.

8. (Currently Amended) The apparatus according to Claim 1, wherein, ~~the third sub is adapted to be coupled to the transmitter chain, the first receiver chain and said first sub switch to couple the first sub switch to said first receiver chain during reception, and to said transmitter chain during transmission, and wherein~~ first and second signal paths are created, which first signal path includes only the first, second and third signal path each includes fewer than or equal to two of the first, second or and third sub-switches and the second signal path includes only the second sub-switch, and, during the transmission, a third signal path is created which third signal path includes only the first and third sub-switches.

9. (Currently Amended) The apparatus according to Claim ~~[[8]]~~ 1, wherein ~~the first sub-switch is adapted to be coupled to all antennas and the second sub-switch is adapted to be coupled to~~ N-1 all except one of the antennas, wherein N is greater than three.

10. (Currently Amended) The apparatus according to Claim 1, ~~wherein said switch~~ further including comprises:

a third receiver chain being different and separate from the transmitter chain and wherein the switch includes a fourth sub-switch adapted to couple a third reception selected antenna, selected from at least two antennas, to [[a]] the third receiver chain.

11. (Currently Amended) A system comprising:

N antennas for connecting to at least R receiver chains and a transmitter chain, which is a dedicated transmitter chain different and separate from the receiver chains, R being less than N; and

a switch adapted to couple each of said receiver chains to a selected individual antenna so that each individual receiver chain is coupled to a different one of said antennas, said switch comprising:

a first sub-switch adapted to couple a first antenna selected from ~~be coupled to (N-T) antennas T being less than R, which first sub-switch is adapted to couple a first antenna selected from the (N-T) antennas~~ to (R-T) receiver chains,

a second sub-switch adapted to be coupled to N antennas, and

a third sub-switch operationally coupled in series with ~~adapted to be coupled to the second sub-switch to couple~~ T antennas selected from N antennas to ~~at least T~~ receiver chains during reception and one antenna selected from N antennas to the transmitter chain during transmission.

12. (Currently Amended) The system according to Claim 11, further comprising:

a combiner operationally coupled to selected individual antennas ~~adapted~~ to receive signals from the selected individual antennas via said receiver chains and combine said signals into a combined signal.

13. (Previously Presented) The system according to Claim 12, further comprising:

a demodulator/decoder adapted to receive said combined signal from said combiner and perform at least one of demodulation and decoding of said combined signal.

14. (Previously Presented) The system according to Claim 11, wherein each individual antenna to be coupled by said switch to each of said receiver chains is to be selected according to a predetermined criterion.

15. (Previously Presented) The system according to Claim 11, wherein each sub-switch is adapted to be coupled to at least two antennas.

16. (Previously Presented) The system according to Claim 11, wherein the third sub-switch is adapted to be coupled to a transmitter chain such that said second sub-switch is coupled to a receiver chain or said transmitter chain through said third sub-switch.

17. (Cancelled)

18. (Previously Presented) The system according to Claim 11, further comprising:
a second transceiver adapted to communicate with a first transceiver, said first transceiver comprising said antennas, said receiver chains, and said switch, said second transceiver lacking antenna diversity, wherein said first transceiver is adapted to transmit a signal to said second transceiver at a data rate that compensates for the second transceiver's lack of antenna diversity.

19. (Currently Amended) A method, comprising:
determining ~~at least~~ first and second subsets of antennas from N ~~a plurality of~~ antennas,
wherein the first subset includes more than one and fewer than or equal to N antennas and the second subset includes more than one and fewer than N antennas;

coupling a first sub-switch to the first subset and a first receiver chain;

coupling a second sub-switch to the second sub-set and a second receiver chain;

selecting a first reception antenna in the first subset and a second reception antenna in the second subset using a predetermined criterion;

coupling a third sub-switch to N antennas and the transmission chain;

selecting a transmission antenna from N antennas ~~in at least one of the first or second subset~~
using a predetermined criterion;

switching signals from the first selected reception antenna to ~~[[a]]~~ the first receiver chain with ~~[[a]]~~ the first sub-switch;

switching signals from the second selected reception antenna to ~~[[a]]~~ the second receiver chain with ~~[[a]]~~ the second sub-switch; and

switching signals from the selected transmission antenna to ~~[[a]]~~ the transmitter chain with ~~[[a]]~~ the third sub-switch, each individual receiver chain receiving a different one of said signals from said selected ~~individual~~ reception antenna, wherein each receiver chain may only receive signals from the determined subset of said plurality of antennas.

20. (Original) The method according to Claim 19, further comprising:

combining signals processed by said receiver chains according to a diversity combining technique.

21. (Cancelled)

22. (Currently Amended) The method according to Claim 19, wherein ~~[[each]]~~ the first receiver chain may receive signals from a subset includes two antennas and the second subset includes four ~~of said plurality antennas consisting of all except one of said plurality of antennas.~~

23. (Cancelled)

24. (Currently Amended) The method according to Claim ~~[[23]]~~ 19, further comprising:

adjusting a data rate of a signal transmitted by said transmitter chain to compensate for a lack of diversity at a remote receiver.

25. (Previously Presented) A machine-readable medium that provides instructions, which when executed by a computing platform, cause said computing platform to perform operations comprising a method of:

determining ~~at least~~ first and second subsets of antennas ~~from N out of a plurality of~~
antennas, wherein the first subset includes more than one and fewer than or equal to N antennas and
the second subset includes more than one and fewer than N antennas;

coupling a first sub-switch to the first subset and a first receiver chain;

coupling a second sub-switch to the second sub-set and a second receiver chain;

selecting a first reception antenna in the first subset and a second reception antenna in the
second subset using a predetermined criterion;

coupling a third sub-switch to N antennas and the transmission chain;

selecting a transmission antenna ~~in at least one of the first or second subset~~ from N antennas
using a predetermined criterion;

switching signals from the first selected reception antenna to ~~[[a]]~~ the first receiver chain with
~~[[a]]~~ the first sub-switch;

switching signals from the second selected reception antenna to ~~[[a]]~~ the second receiver
chain with ~~[[a]]~~ the second sub-switch; and

switching signals from the selected transmission antenna to ~~[[a]]~~ the transmitter chain with
~~[[a]]~~ the third sub-switch, each individual receiver chain receiving a different one of said signals
from said selected ~~individual~~ reception antenna, wherein each receiver chain may only receive
signals from the determined subset of said plurality of antennas.

26. (Original) The machine-readable medium according to Claim 25, further comprising
instructions, which when executed by a computing platform, cause said computing platform to
perform operations further comprising:

combining signals processed by said receiver chains according to a diversity combining
technique.

27. (Cancelled)

28. (Currently Amended) The machine-readable medium according to Claim 25, wherein
~~each receiver chain may receive signals from a~~ the first subset of said plurality includes two antennas
~~consisting of all except one of said plurality of~~ and the second subset includes four antennas.

29. (Cancelled):

30. (Currently Amended) The machine-readable medium according to Claim ~~29~~ 25, further comprising instructions, which when executed by a computing platform, cause said computing platform to perform operations further comprising:

adjusting a data rate of a signal transmitted using said transmitter chain to compensate for a lack of diversity at a remote receiver.

31-34. (Cancelled)

35. (Previously Presented) An apparatus, comprising:

multiple antennas to connect to receiver chains and at least one transmission chain;

a switch which selects individual antennas and connects each selected individual antenna to a respective individual receiver chain during reception and to the transmission chain during transmission, the antennas connected to the receiver chains being physically different from one another; and

a combiner coupled to the receiver chains to receive the reception signals from each individual antenna via the respective individual receiver chain and combine the received reception signals into a combined reception signal.

36. (Previously Presented) The apparatus according to claim 35, further including first and second predetermined subsets of antennas and wherein the switch includes:

a first sub-switch, operationally coupled between the first subset and a first receiver chain, which first sub-switch connects a first individual antenna selected from the first subset of antennas to the first receiver chain;

a second sub-switch, operationally coupled between the second subset and a second receiver chain, which second sub-switch connects a second individual antenna selected from the second subset of antennas to the second receiver chain; and

a third sub-switch, operationally coupled between the transmission chain and at least one of the first or second subset, which third sub-switch connects an individual transmission antenna selected from at least first or second subset to the transmission chain.

37. (Previously Presented) The apparatus according to claim 36, wherein the third sub-switch is further operationally coupled between the second sub-switch and the second reception chain, to connect, via the second sub-switch, the second antenna to the second reception chain during reception and the transmission antenna to the transmission chain during transmission.